

(No Model.)

A. DORMITZER.
WINDOW CLEANING CHAIR.

No. 335,215.

Patented Feb. 2, 1886.

Fig. 1.

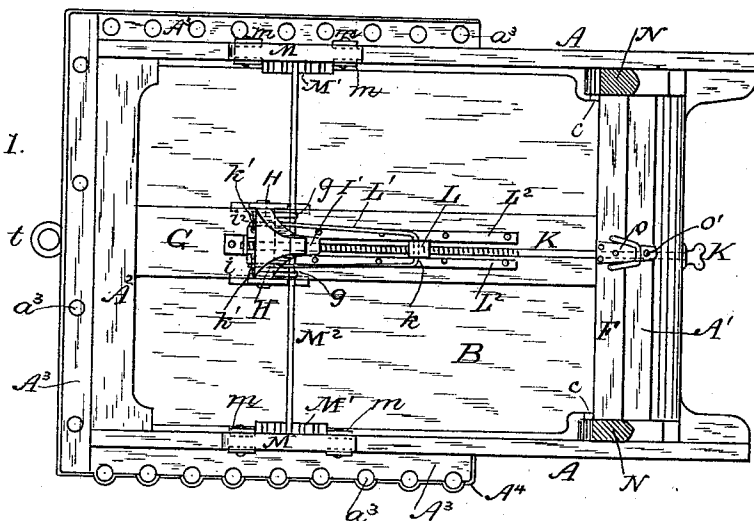


Fig. 2.

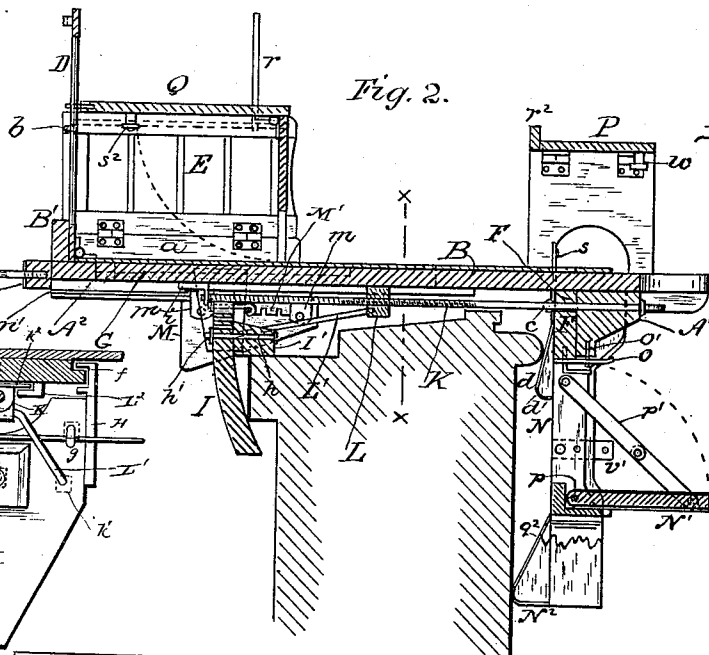


Fig. 4.

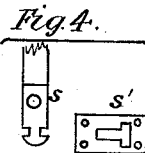


Fig. 5.

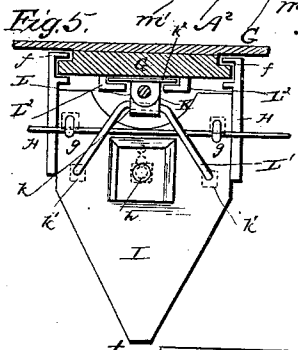
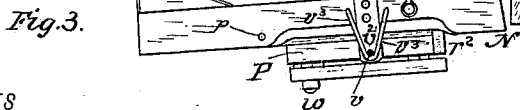


Fig. 3.



WITNESSES

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WINDOW-CLEANING CHAIR.

SPECIFICATION forming part of Letters Patent No. 335,215, dated February 2, 1886.

Application filed January 21, 1885. Serial No. 153,467. (No model.)

To all whom it may concern:

Be it known that I, ANNA DORMITZER, a citizen of the United States of North America, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Window-Cleaning Chairs, of which the following is a specification.

This invention relates to a window-cleaning chair described in the several Letters Patent of the United States heretofore granted to me, and which are numbered 200,441, 206,935, 206,936, 219,234, 244,203, 256,654, and 293,428, and its objects are to simplify and improve the construction of the chair.

The improvements consist of an adjustable stop fixed on the clamping-block on the under side of the chair, of an improved clamp-frame, of improved devices for adjusting the stop-frame, and of other novel devices for holding certain parts of the chair in place when desired, and permitting their ready detachment; and they further consist of an improved device which enables the operator better to reach the top of a window on the outside, all of which will be hereinafter fully set forth.

Reference is to be had to the accompanying drawings, forming part of the specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan of the under side of the chair with parts removed. Fig. 2 is a sectional side elevation of the chair adjusted in position on a window-sill with auxiliary steps in position. Fig. 3 is a side elevation of a portion of the device, showing the steps folded up when the chair is packed for transportation. Fig. 4 is designed to illustrate certain details of construction. Fig. 5 is an enlarged vertical section on line *xx*, Fig. 2.

The chair-frame consists of side strips, A A, firmly held together by front and rear end strips, A' A², respectively, and on these strips is secured a platform or seat, B. This frame or platform is re-enforced at its outer rear edge by a strip, B', which projects up above the level of the frame, and serves to give support to the lower edge of a back piece or guard, D, hinged to the frame, to fold down inwardly thereon between the side guards, E, that are each hinged to a side strip, *a*, on the edge of

the platform, high enough to permit of their folding inward upon the top of the guard D when the latter is folded down. When turned up, the side guards, E, are supported by the interposed rear piece, D, which in turn receives its support against lugs *h*, projecting slightly from the inner rear faces of the side guards, E.

Rigidly fixed between the side strips, A A, near the front ends thereof, is a beam, F, to which is hinged by hinges *c* the step-frame, hereinafter to be described.

Beneath the platform B, and extending between the end strips, A' A², to which it is rigidly secured, is a central bar, G, slightly undercut along its edges, so that grooves *f* are formed between it and the platform B, as shown in Fig. 5.

Two T-shaped lugs, H, with their heads channeled, so as to clamp the opposite edges of the bar G, form the clamp-frame, and are fitted longitudinally on said bar, and these lugs H hold rigidly between them a clamping-block, I, projecting downward at about right angles from the platform B, said clamping-block I being preferably bent or curved slightly inward to give it a firmer hold against the outside of a window-sill when applied thereto. Adjustably secured on the inner or front face of this clamping-block I is a stop, I', that may be adjusted and secured at a higher or lower point by passing its bolt *h* through any one of the several corresponding bolt-holes in the block I, and tightening the nut *h'* thereon. The very important function of this stop I' is to steady the chair in position on a window-sill by contact with the upper face of the sill outside of the window, as shown in Fig. 2, and to hold the outer end of the chair at the desired elevation or inclination.

The clamping-block I is adjusted by means of a long thumb-screw, K, passed through the middle of the front frame-strip, A', and extended along beneath the central line of the bar G, into a lug, *i*, that is fixed on said bar in the rear of the block I. On this thumb-screw K is fitted a traveling nut, L, which is perforated transversely, and is connected with the block I by means of a bent rod, L', that is passed through said transverse perforation *k*, and has its ends carried down and passed

through the block I, and there secured by nuts k' . This traveling nut L is provided with side flanges, k ,² that engage in grooves formed by two guide-bars, L^2 , which are secured parallel to each other on the bar G, and thus said nut L may be moved steadily forward or back, and the block I with it, by the turning of the screw K.

Upon either side of the chair a nearly triangular block, M, having a rack, M' , fixed on its inner face, is fitted to slide longitudinally upon its side strips and to project downward therefrom, with its inclined face downward and its smaller end forward. These sliding blocks M are held in place by means of their lugs m engaging in grooves m' of the side strips, and they are prevented from becoming accidentally detached from the chair by means of a flexible metallic rod, M^2 , which is centrally connected with the clamping-block I by eyebolts g , and has its ends inserted in the teeth of said racks M' ; and by means of this rod M^2 the sliding blocks M are moved forward and back synchronously with the clamping-block I, thus making their proper adjustment automatic, as it were. The ends of said rod M^2 may be fixed between any of the opposite teeth of the racks M' , so that on adjusting the block I the blocks M, by means of the rod M^2 , may be moved and held in the required position and with necessary firmness upon the outer window-sill.

The step-frame N, hinged at c , has fixed on the rear edge of each side bar a block, d , that has its exposed edge preferably covered with felt or leather, as indicated at d' , to give it a better hold against the inner face of a window-sill against which it may make contact, and at the same time to prevent it from defacing the paint on the sill.

Pivoted between the side bars of the step-frame N on a rod, p , is a step, N' , that is supported in place by jointed braces p' , whose upper ends are pivoted on the inner faces of said side bars, so that when said braces are extended the step is in operating position, and so that said step may be folded up when desired, as indicated in Fig. 3. On the inner edges of the said step side bars, near the lower ends thereof, are secured pad-blocks N^2 , provided with pads U^2 , designed to bear against the wainscot when the chair is in use. This step N' enables the operator to easily mount to the chair-platform. This step-frame is, when lowered in operative position, as shown in Fig. 2, held firmly in place by a catch, o , which is secured on the upper cross-bar of said frame, and is made to engage over a stud, o' , fixed in the lower edge of the chair-frame strip A' .

To facilitate the use of the chair in reaching the extreme upper portion of a window, I supply therewith a detachable step, P, whose legs are hinged on the under side of said step. Two of the feet or lower corners of these legs are provided with tenon-plates s adapted to fit into corresponding mortise-plates, s' , as shown

in Fig. 4, secured in the chair-platform, so that said step P may be securely fixed in the position shown in Fig. 2.

Instead of one step, as P, I may use two or more steps or a step-ladder removably fixed on the chair-platform to enable the operator to reach still higher. The rear edge of this step P is provided with a raised edge, r^2 , to keep the feet of the operator from contact with the window-glass when cleaning the windows.

The step-frame and step N N' and step P may be folded together for transportation, as indicated in Fig. 3. The step P has a pin, v , projecting from each end, and on the outer face of one of the side strips of the frame N is secured a rigid perforated lug, v' , (see Fig. 2,) and on the other side strip a perforated spring or elastic lug, v^2 , outside of or over which is a rigid U-shaped stop, v^3 . Hence when folded together a pin, v , of the step P is entered in the lug v' , (see Fig. 3,) and the other pin v in the lug v^2 , which is pulled back for the purpose and then springs inward again, so that the step P is held in place with its edge r^2 overlapping the lower ends of the side strips of the frame N. The legs of the step P are then turned down and secured by a button, w , that is fixed on the under side of said step.

When the chair is applied to use, the platform or seat is placed upon the window-sill, with the inner edges of the blocks F bearing against the inner edge of the sill, while the clamp I projects downward beyond and against the outer edge of the sill, and the stop I' rests on the sill. Then the clamp I is drawn inward by turning the thumb-screw K until said clamp is brought to bear forcibly against the outer face of the sill, the end of the clamp biting under the lower edge thereof. Then the sliding blocks M are drawn inward by the rod M^2 , as indicated in Fig. 2, and the chair is fixed rigidly in position. The step-frame and step N N' are then adjusted in place, and the auxiliary step P fixed in position, if desired, as shown in Fig. 2.

Firmly secured to the rear and sides of the chair-frame are strips A^3 A^3 , provided with vertical sockets a^3 , and, preferably, an iron band, A^4 , is fastened on and over these strips to further strengthen them and hold them in position.

I do not confine myself to strips A^3 of this precise construction and shape, as bands of corrugated iron could be so attached to the sides of the chair-frame as to afford the desired sockets for holding the proposed standards. These sockets a^3 are designed for the insertion therein of standards r , on which to suspend pails and wash-rags for the convenience of the operator when cleaning windows.

In order to enable the operator to more easily reach the top of a window from the outside, I have provided an auxiliary step, Q, whose hinged leg may be folded up and held by a button, s^2 , when the said step is not in use. This step Q is designed when in use to be fixed on the rear end of the chair-platform,

as shown in Fig. 2, and to be firmly secured in place by any suitable device. A long standard, r , inserted in one of the sockets a^3 and projecting up through a corresponding hole 5 (not shown) in an edge of the step Q , will serve to support a pail when said step is in use, and will also serve to steady the operator who may grasp it as he gets on or off the step.

The value of this improved window-cleaning chair is further demonstrated when a fire-escape device is combined with it. Let it be supposed that a house is supplied with two of the chairs, for instance, which, not in use, are hung up, packed as for transportation by attached rings t in some convenient place, one 15 in an upper and one in a lower story, and that a fire-escape device is also conveniently at hand. On an alarm of fire the chairs can be taken down and adjusted in position without the auxiliary steps on window-sills in less than 20 a minute. The fire-escape device can be attached to the chairs in another minute, and then by means of the combination the inmates of the house can safely descend to the street.

25 The lower end of the ladder may be secured to a weight that will hold it taut and steady, so that the descent from the windows may be safely and easily made. Preferably the rope ladder is made of wire-rope sides and iron 30 rungs.

In packing the chair for transportation the sliding blocks M may be removed from the chair, and the clamp I and clamp-frame H may be taken apart and removed.

35 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a window-cleaning chair of the character substantially as herein specified, the combination, with an adjustable clamp or clamping- 40 block, as I , adapted and arranged to bear against the outer edge of a window-sill, of a stop, as I' , fixed on said clamp, and stop-adjusting devices, substantially as and for the purpose set forth.

45 2. In a window-cleaning chair, the combination, with an adjustable sliding clamping-block, as I , and grooved bar, as G , of a clamp-frame, as H , having channeled head adapted to clamp the edges of said bar, all arranged and 50 operating as set forth.

3. In a window-cleaning chair of the character substantially as herein specified, the combination, with the sliding clamp, as I , clamp-

adjusting screw, as K , and guide-bars, as L^2 , of a transversely-perforated traveling nut, as 55 L , bent rod, as L' , and having side flanges, K^2 , and nuts, as k' , substantially as herein shown and described, whereby said clamp and screw are connected, as set forth.

4. In a window-cleaning chair of the character substantially as herein shown and described, and provided with mortise-plates s' , of auxiliary step, as P , having legs hinged there- 60 to, and provided with tenon-plates, as s , substantially as and for the purpose described.

5. In a window-cleaning chair of the character substantially as herein specified, the combination, with a step, as N' , and step-frame, as N , provided with rigid perforated lug, as v' , elastic perforated lug, as v^2 , and rigid stop, as 70 v^3 , of auxiliary step, as P , provided with pins, v , and fastening device, as w , substantially as herein shown and described, whereby said frame and steps may be held packed together, as set forth.

6. The combination, with a central clamp 75 adapted to traverse upon the under side of a window-cleaning chair in a direction from front to rear, and to engage against the outer face of a window-sill, and which is provided 80 with mechanism adapted to produce an adjustment of said clamp, of inclined-face sliding blocks provided with attached racks traversing longitudinally upon the sides of the chair- 85 platform to rest upon the window-sill, and a transverse connecting-rod connecting said blocks with each other and the central clamp, so that the blocks may be adjusted forward or rearward relatively to the clamp, and so that the three shall move in unison, substantially 90 in the manner and for the purpose herein set forth.

7. The combination, with the chair-platform and side and rear guards, of an auxiliary step adapted to be fixed on the rear portion of said 95 platform, as and for the purposes substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 15th day of November, 1884.

ANNA DORMITZER.

Witnesses:

JACOB J. STORER,
ALBERT P. MORIARTY.